

Amendments to the Specification

Please amend the second paragraph on page 9 through the first full paragraph on page 10 as follows:

~~Referring now to Fig. 6, a~~ A silicon nitride liner or other barrier layer may be formed using chemical vapor deposition (CVD) or atomic layer deposition (ALD) methods. This liner layer 60, not shown, is formed within the collar divot 55. The liner layer may have a thickness of between about 5 and 30 nm. The liner layer is optional to the process of the invention. The liner layer suppresses excess out-diffusion of dopants into the source/drain region and to prevent dislocation in the silicon layer which may cause leakage. The liner layer is optional in the HSG process because HSG will not grow on crystalline silicon due to lack of surface mobility of silicon atoms.

Now, a buried strap is formed by a selective deposition process. A conductive layer is deposited selectively. This layer must serve as a dopant source. A selective hemispherical grain (HSG) method is preferred. If a HSG method is not used, another selective deposition method such as SiGe, selective polysilicon, or pseudo-epitaxial silicon methods may be used. ~~In these cases, the silicon nitride liner layer 60 is mandatory so that the conductive layer does not grow on the uncovered portion of the deep trench thereby causing a leakage path. The liner layer suppresses excess out-diffusion of dopants into the source/drain region and to prevent dislocation in the silicon layer which may cause leakage. The liner layer is optional~~

in the HSG process because HSG will not grow on crystalline silicon due to lack of surface mobility of silicon atoms.

The preferred selective HSG polysilicon process will now be described. Preferably, the optional surface amorphization step by plasma doping has been performed to provide surface mobility of the silicon atoms in 54 to promote HSG formation. Now, selective HSG 62 is formed as is conventional in the art for stacked capacitor applications, as shown in Fig. 6.